DOCUMENT RESUME

ED 058 865 JC 720 036

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TITLE Efficiency Toward Completing Bachelor Degree Requirements at Western Michigan University: A Study Comparing Two-Year College Transfer Students and Native Students Earning Bachelor Degrees in 1970.
INSTITUTION Western Michigan Univ., Kalamazoo.
PUB DATE 71
NOTE 21p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Cost Effectiveness; *Educational Accountability; Educational Economics; *Followup Studies; *Junior Colleges; *Transfers; *Transfer Students

ABSTRACT

The hypothesis that junior college transfer students are not as efficient in completing their degree programs at Western Michigan University (WMU) as students beginning and completing their college education there, was investigated. Efficiency for individual students was defined by five variables: (1) years required to complete degree requirements, (2) terms enrolled in to complete degree requirements, (3) upper-division terms enrolled in after achieving junior status, (4) total credit registered and paid for to complete degree requirements, and (5) accumulated grade point average upon completing degree requirements. The analysis was based on the assumption that excessive years, upper-division terms, and total credits registered and paid for to complete degree requirements were costly to students, parents and tax payers. WMU graduates for 1970 were divided into three classifications: (1) native students; (2) transfer students; and (3) students not designated as native or transfer. Official school records were the data source for comparing native and transfer students on the five variables. Arithmetic means were analyzed using the t test statistic, and results tended to imply that it was not less costly for students to attend a junior college for their first two years. (AL)

ED 058865

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EFFICIENCY TOWARD COMPLETING BACHELOR DEGREE REQUIREMENTS AT WESTERN MICHIGAN UNIVERSITY: A STUDY COMPARING TWO-YEAR COLLEGE TRANSFER STUDENTS AND NATIVE STUDENTS EARNING BACHELOR DEGREES IN 1970

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1971

JC 720 036

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DEFINITION OF TERMS

1. Transfer Students - Students transferring to Western Michigan University from two-year colleges located in Michigan and out-of-state and completing the remainder of their degree requirements at Western Michigan University. Transfer students from four-year colleges and universities are not considered.
2. Western Michigan University - A four-year public institution of higher learning located in Kalamazoo, Michigan.
3. Native Students - Students beginning at Western Michigan University as their first institution of higher learning attended, and earning all credit for the bachelor's degree at Western Michigan University.
4. Efficiency Toward the Degree - The total number of units or credits paid for and the total number of semesters and sessions enrolled to complete bachelor degree requirements at Western Michigan University.
5. Costs Per Unit of Credit - Tuition charge per unit of credit at Western Michigan University and the community or junior college.
6. Permanent Academic Record - An 8½" x 14" hard copy of a student's academic record, listing all academic credit registered and paid for at Western Michigan University or, in the case of the transfer student, his official transcript of academic credit registered and paid for at the community or junior college.
7. Term - A semester of 15 weeks or a session of 7½ weeks.

8. Semester - A period of time classes are in session consisting of approximately 15 weeks.

9. Session - A period of time classes are in session consisting of approximately 7½ weeks.

10. Normal Degree Requirements - For most curriculums at Western Michigan University a minimum of 124 semester units of credit are required for the bachelor's degree.

11. Degree - Refers only to bachelor degree requirements.

12. Junior Status - An accumulation of 56 semester units of credit at Western Michigan University.

ABSTRACT

Objectives

The purpose of this study was to determine the extent the assumption is true that junior and community college transfer students are not as "efficient" in completing their degree programs at Western Michigan University as are students beginning and completing their college education only at Western (native students). Students transferring to Western Michigan University from other four-year colleges or universities, and students beginning at Western Michigan University transferring to another college or university and returning to Western Michigan University to complete their degree are not considered as a part of this study.

Native students and community or junior college transfer students are compared with respect to their efficiency in moving through their degree programs. Efficiency is defined in this study according to the following five variables:

1. The length of time in years taken for an individual student to complete degree requirements.

2. The total number of terms (semesters and sessions) enrolled for an individual student to complete degree requirements.

3. The total number of upper-division terms enrolled by an individual student after accumulating 56 semester units of credit (a junior status at Western Michigan University).

4. The total number of credits registered and paid for by an individual student to complete degree requirements at Western Michigan University.

5. The accumulated grade point average achieved by an individual student at the point of completing degree requirements.

Such an analysis is defended on the basis that an excessive number of years, total terms, upper-division terms, and total credits registered and paid for to complete degree requirements are "costly to the student, his parents, and to the taxpayer."[1] To what extent, then, does this excess exist when transfer students are compared to native students at Western Michigan University? Dorothy Knoell (1964) reports in her 1964 Digest of Research Findings, "students are being diverted to the junior and community colleges on the assumption that the total cost of their degree programs will be no more (and probably less) than if they entered four-year colleges as freshmen." Knoell indicates that her assumption is based upon costs per unit of degree credit, rather than on the amount of money needed for a college or university to produce a student completing a four-year degree.[2]

It is the purpose of this study to look at credits registered and paid for and the time involved to complete degree requirements, comparing community and junior college transfer students to native students at Western Michigan University. It is also considered appropriate to take a look at the achievement of native and transfer students in respect to their accumulated grade point averages at the time of completion of degree requirements, since satisfactory progress may have an influence on the amount of time spent completing degree requirements.

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[1]Knoell, Dorothy M. A Digest of Research Findings (National Project for Improvement of Articulation between Two-Year and Four-Year Colleges), 1964, p. 49.

[2]Ibid.

Procedures

Western Michigan University Permanent Academic Record Cards of all those students completing requirements for the bachelor's degree at Western Michigan University in 1970 were examined. In addition, for transfer students, the "official transcript" of the community or junior college from which the student transferred was examined. All records were obtained from the Academic Records Office at Western Michigan University.

The 1970 graduates were divided into three classifications: (1) native students; (2) transfer students from community and junior colleges; and (3) students not designated as either native or transfer students as defined in this study. For example, four-year college transfers and students entering Western Michigan University first, but later transferring to another college or university were not included in this study. In comparing native and transfer student efficiency toward completing degree requirements at Western Michigan University, five variables are used for the basis of the comparison:

1. Length of time in years to complete degree requirements.
2. Number of terms enrolled to complete degree requirements.
3. Number of upper-division terms enrolled to complete degree requirements.
4. Number of credits registered and paid for to complete degree requirements.
5. Accumulated grade point average at the point of completing degree requirements.

Data was mark-sensed on scoring sheets and punched into card form for machine processing. The Western Michigan University Computer Center processed the data for analysis.

PROBLEM

As was stated earlier, many students have been diverted to the community or junior colleges rather than four-year institutions on the assumption that costs are less. It certainly is recognized that the definition of "less cost" involves many considerations. One of the considerations, as defined by the study, is the efficiency which students exhibit toward completing degree requirements. Efficiency in this study is defined as the length of time in years; the number of terms enrolled; the number of upper-division terms enrolled; the number of credits registered and paid for; and the achieved grade point average at the point of graduation. Then on the basis of this efficiency, as defined, how do community and junior college transfer students graduating from Western Michigan University in 1970 compare with native students graduating from Western Michigan University in 1970. To what extent is the assumption true that community and junior college transfer students at Western Michigan University are less efficient in completing degree requirements than are native students at Western Michigan University? It was hypothesized that community and junior college transfers are less efficient than native students at Western Michigan University in completing degree requirements and, therefore, it may be more costly to the transfer student in terms of credits paid for and time spent to earn the bachelor's degree at Western Michigan University.

RELATED LITERATURE

At the time of this study, information did not exist in regard to the efficiency (as defined in this study) of Western Michigan University transfer students completing degree requirements at Western Michigan University as compared to Western Michigan University native students.

There has been some significant studies of transfer students at Western Michigan University. Lambe (1964) reported that students admitted to Western Michigan University after earning grade point averages between 2.00 and 2.49 at community and junior colleges improve their grade point average after the first semester and succeed in earning degrees. In terms of adjustment to Western Michigan University, Lambe reported that two of the major problems encountered by transfer students were the increased costs at Western and the loss of credits upon transfer.[3]

Asher (1967-68) indicates that transfer students survive to graduate "at a rate not unlike on-campus students, provided they complete the first semester at Western satisfactorily." He also reports that transfers observe "that it takes them longer to graduate than they had been led to believe."[4]

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[3]Lambe, Cameron W., Academic Success and Adjustment to University Life of Community College Students Transferring to Western Michigan University: A Dissertation (Submitted to the Graduate Division - Wayne State University, Detroit, Michigan), 1964. pp. 113, 116.

[4]Asher, Jack, A Study of WMU Transfer Students (WMU Office of Institutional Research), 1967-68. p. 4.

The CUE Report of Western Michigan University indicated in quoting the results of a survey conducted by Task Force 21 on the Relationship Between the University and Other Colleges, "A survey of Western students indicates something of the magnitude of this situation. It revealed that nearly half of all WMU students were transfers, and almost 75 per cent of these came from community colleges."[5]

Western Michigan University has encouraged attempts to follow and study the progress of its transfer students. Analyzing the concept of "efficiency toward completing degree requirements" by comparing Western Michigan University transfer and native students is such an attempt, and is the focus of this study.

OBJECTIVE

The objective of this study is to determine the extent that community and junior college transfer students are less efficient in completing degree requirements at Western Michigan University than their native student counterparts. Efficiency is defined as the following five variables:

1. Length of time in years to complete degree requirements
2. Number of terms enrolled to complete degree requirements
3. Number of upper division terms enrolled to complete degree requirements
4. Number of credits registered and paid for to complete degree requirements
5. Accumulated grade point average at the point of completing degree requirements

Western Michigan University transfer students and Western Michigan University native students are compared utilizing the above five variables as criteria for comparison purposes.

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[5] A Report of the All-University Committee on Undergraduate Education. Western Michigan University at Kalamazoo, 1971. p. 46.

PROCEDURES

The Sample

A Sample of 1,011 students was selected from the 1970 graduation lists. These lists contained 3,963 graduates earning a bachelor's degree from Western Michigan University. Selection of the 1,011 students involved choosing every fourth student contained on the lists. There were four lists consisting of graduates earning degrees during April, June, August, and December of 1970. A total of 293 transfer students and 326 native students were selected for study from the 1,011 students originally selected. A total of 392 students were excluded from the original sample due to the definition of transfer student and native student in this study (see Definition of Terms). Table No. 1 indicates the breakdown of the student sample selected for study.

TABLE NO. 1

SELECTED SAMPLE OF WESTERN MICHIGAN UNIVERSITY

TRANSFER STUDENTS AND NATIVE STUDENTS BY 1970 GRADUATING CLASS
(According to Month of Year)

Selected Sample	Graduation Class				Total
	April 1970	June 1970	August 1970	December 1970	
Transfers	102	58	64	69	293
Natives	138	54	45	89	326
Total	240	112	109	158	619 (Selected Sample)
Students Excluded from Sample	115	71	91	115	392
TOTAL	355	183	200	273	1011

The 293 transfer students selected for study includes only those students beginning their college education at a two-year community or junior college and then transferring to Western Michigan University to complete degree requirements. The 326 native students include only those students beginning their college education at Western Michigan University and completing degree requirements, but not earning any credit at any other institution of higher learning. Students who transferred to Western Michigan University from community and junior colleges and returned again to the same community or junior college are also included in the selected sample for study. These two groups of students compose the total of 619 students and the selected sample for study.

Students excluded from the sample represent persons who transferred to Western Michigan University from another four-year college or university, or students who began their college education at Western Michigan University, and later transferred to another college or university, regardless if the college or university was two-year or four-year. Students in this group returning to Western Michigan University to complete degree requirements are also excluded.

The Data Collected

The data necessary for the study was taken from Western Michigan University Permanent Academic Record Cards and official transcripts from student file folders. These records are kept in the Office of Academic Records at Western Michigan University. Permission to use these records was obtained from Clayton J. Maus, Dean of Admissions, Records and Registration, and Charles A. Carson, Director of Academic Records. Miss Jeane

Hartsell, statistician and staff assistant to Dean Maus, assisted in the collection of the data.

The data collected for each student included the following:

1. The date of first enrollment of academic course work at Western Michigan University—the month and the year.

2. The total number of terms (semesters and sessions) enrolled. For transfer students this also included quarters if the college they transferred from used the quarter system instead of the semester system.

3. The total number of upper-division terms enrolled after a student had earned 56 units of credit acceptable to Western Michigan University for degree requirements (Fifty-six semester units of credit is the minimum amount needed for a student to be classified as a junior at Western Michigan University).

4. The total number of semester units of credit registered and paid for to complete degree requirements at Western Michigan University. In cases where transfer students had quarter credits instead of semester credits, the quarter hours were interpreted into semester units of credit using the following formula: Semester units = quarter units ÷ 2/3; since a quarter unit of credit is two-thirds of a semester unit of credit.

Credits registered and paid for are <u>not</u> the same as credits earned. This understanding is most important to the study. Credits registered and paid for reflect a "true picture" of the efforts and the efficiency of the student since these credits include all "D", "E", and incomplete grades; all courses registered for and dropped, or which resulted in complete withdrawal; and all pass/fail or credit/no credit options that may be available to the student. Credits earned represent only the "successes" and not the failures or incompletes. The concept of "credits registered and paid for" represents the total effort on the part of the student to complete degree requirements and provides less distortion of a student's efficiency in completing degree requirements. It should be noted that some community and junior colleges choose <u>not</u> to include any course work on their official transcript that <u>is not</u> passing work. No attempt was made to identify these colleges or exclude these students from the selected sample for study. The official transcript was interpreted according to what actually appeared on the transcript.

5. The final accumulated grade point average at the point of graduation was also collected for each student.

All data was entered on mark-sense scoring sheets and punched into card form for machine processing by the Computer Center at Western Michigan University. A total of 619 cards were punched with data-293 transfer students and 326 native students. Utilizing a special computer program written by the staff of the Western Michigan University Computer Center to handle three digit codes, a t test was used to compare the arithmetic means of transfer and native students for the five criterion measures of length of time in years, terms enrolled, upper-division terms enrolled, total degree hours, and accumulated grade point average.

COMPARISON OF TRANSFER AND NATIVE STUDENT DATA - THE RESULTS

Results of the comparison of transfer students to native students is illustrated by Table No. 2.

TABLE NO. 2

COMPARISON OF ARITHMETIC MEANS OF FIVE VARIABLES

- TRANSFER STUDENTS VS. NATIVE STUDENTS

Variable	Sample Size		Mean		Standard Deviation		Degrees of Freedom	t - Value
	Transfer	Native	Transfer	Native	Transfer	Native	Transfer & Native	Transfer & Native
1. Length of Time (years to graduate)	293	326	4.9215	4.2730	1.67291	1.22374	617	5.541*
2. Terms Enrolled	293	326	11.6860	10.3650	2.51918	2.07369	617	7.149*
3. Upper-Division Terms Enrolled	293	326	6.2628	5.9540	1.40299	1.44255	617	2.694*
4. Total Degree Semester Hours	293	326	142.0921	136.4847	17.89163	13.24090	617	4.461*
5. Accumulated G.P.A.**	293	326	2.6285	2.8054	0.41318	0.41549	617	-5.303*

* t - Value significant at the .001 level

** A grade point average at Western Michigan University is obtained by dividing the total number of honor points earned by the total number of semester hours of work. Grades are indicated by letters, to each of which is assigned a certain value in honor points, Ex. A=4, B=3, C=2, D=1, E=0. A 2.62 or 2.80 would reflect a C+ average at Western Michigan University.

Variable 1: Length of Time to Complete Degree Requirements

The entry date of first enrollment into a two-year college was determined for the transfer student and the entry date of first enrollment into Western Michigan University was determined for the native students. Each of the entry dates for both transfer and natives were subtracted from 10, since 1970 was the year of degree completion for all students included in the study. No student in the selected sample exceeded ten years from the time of first entrance to the time of completion of the degree.

The resulting comparison of number of years to complege degree requirements was found to be in favor of the native students. Native students are more "efficient" (See Table No. 2 - It took them less time, 4.27 years) in the number of years to complete degree requirements than were the transfer students (See Table No. 2 - It took them longer, 4.92 years). This difference was significant at the .001 level when comparing the two means (Transfer 4.92 vs. Native 4.27).

It should be pointed out that it may have been more appropriate to determine the length of time in terms of months instead of years. Number of months enrolled to complete degree requirements would have been a more accurate statistic than years. However, the difference in length of time is significant when comparing sample means, in that it did take transfer students longer to complete degree requirements than the native students, and were, therefore, less efficient in completing degree requirements than were the native students.

Variables 2 and 3: Number of Total Terms Enrolled and Number of Upper-Division Terms Enrolled to Complete Degree Requirements

Comparison of the means of both of these variables (See Table No. 2) indicates that transfer students enroll in more terms to complete degree requirements than do native students. Not only are transfer students enrolling in more terms, but they also spend more time completing their degree requirements once they have achieved junior status (accumulated 56 semester units of credit or its equivalent in quarter hours). No attempt is made in this study to determine the reasons for transfer students spending more time in upper-division terms. A more detailed analysis of transfer credit, or the loss of transfer credit and course equivalency between junior and senior colleges and universities would have to occur. Comparison of transfer and native student arithmetic means of total terms and upper-division terms seems to indicate that transfer students are less efficient in completing degree requirements.

Variable 4: Total Number of Semester Units of Credit Registered and Paid For to Complete Degree Requirements

This variable represents the most interesting variable of the five to the writer (hopefully to others), since credits registered and paid for reflects a more "true picture" of what actually happened to the student. These credits include all grades received, "D" and "E", incomplete credits, complete withdrawals, and all pass/fail-credit/no credit options. Should one be interested in applying a per credit cost figure to the total number of degree hours taken to complete degree requirements, these credits would represent true figures for individual students. They represent the actual credits dealt with by the student to "earn" the degree, and not just

the credits passed or "earned," or the credits attempted and failed.

When comparing the arithmetic means for transfers and native students of credits registered and paid for, again the comparison indicates the transfer student (See Table No. 2 - 142.09 credits) less efficient than his native student counterpart (See Table No. 2 - 136.48 credits).

It takes the transfer student more credits on the average to complete degree requirements than it does the native students, and, therefore, the transfer is considered less efficient. Perhaps six credits (142 minus 136) is negligible in terms of amount of cost per credit hour difference, but it could mean an extra semester or session at Western Michigan University to complete degree requirements. We then have other costs such as room and board, additional tuition money, and perhaps more important, a delay in a student's eligibility for full-time employment opportunities and a desirable income.

Variable 5: The Accumulated Grade Point Average at the Point of Completing Degree Requirements

Table No. 2 data reveals a negative t-value of -5.303 for grade point average comparison which is significant at the .001 level. This value is significant in that the negative difference shown indicates that transfer students and native students are approximately equal in their ability to achieve academically, and, therefore, both transfer and native students are just as efficient in achieving grade point averages in their efforts to complete degree requirements. These data are supported by many studies comparing the academic achievement of transfer students and native students,

least of which is the Empirical Report of The American College Testing Program, Incorporated.[6]

Discussion and Limitations of the Study

As was stated earlier in this study, many students have been diverted to the two-year community and junior colleges rather than four-year institutions on the assumption that the costs are less. However, as the results of this study seem to indicate, if by first attending a two-year college a student finds himself spending more time in terms of years, terms enrolled, and credits registered and paid for than does the native student, yet seemingly achieving at the approximate same level (about a C+ academic average), the transfer may find the "less cost factor" not as concrete of an argument as it seemingly appears at the present time. Again it is recognized that the definition of "less cost" involves many considerations. Does it cost less for a student to sleep and eat his meals at home and pay commuting expenses to a local college, as compared to dormitory or apartment living at a public four-year institution? Is this cost less for the student's parents? Are student job opportunities greater at the large, four-year, public institution and its location, than they are at the smaller two-year college situated in the local community? Are tuition rates significantly greater at the state, tax-supported four-year institution than they are at the local tax-supported two-year college? How do lower-division course costs at the four-year

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[6]The American College Testing Program, Inc. The Two-Year College and Its Students: An Empirical Report. (ACT Publications, Iowa City, Iowa) 1969. p. 108.

institution compare with lower-division course costs at the two-year college which are transferable to the four-year institution and are considered equivalent in content? Does "less efficiency" as expressed in this study on the part of the transfer student in completing degree requirements prove to be more costly to the transfer student? These questions and others may be worthy of inquiry and future analysis.

There are perhaps limitations to any study and the results expressed in this study are no exception. A more detailed analysis by curriculum, using the five variables identified, would be more meaningful to colleges and universities. It is at the program or curriculum level where most of the work must take place.

No attempt was made by this writer to account for the variables influencing the five measures used for comparing transfer and native students. For example, reasons for course withdrawal, complete withdrawal from college, loss of transfer credits, and change in choice of curriculum need to be analyzed.

A selected sample was used in this study with no attention given as to the extent of representativeness of the student sample in terms of sex, age, intellectual ability, emotional stability, curriculum enrolled, two-year college attended, or two-year curriculum prior to transfer. These factors alone or collectively could account for much of the variance and student efficiency in completing degree requirements.

Hopefully, this study will serve as a "stepping-stone" for more creative kinds of research concerned with attaching cost factors to any differences found comparing transfer and native students. At the minimum, it is hoped this study has raised questions and caution about the "loud

cries" of those who advocate the less cost of attending a two-year college first and then transferring. Delays in completing degree requirements are likely to occur, and they may prove costly.

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